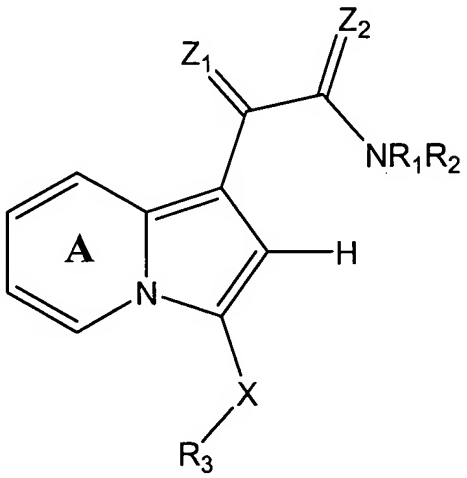
Amendments to the Claims

Please amend Claims 1, 3, 4, 9, 14, 15, 16, 17 and 22. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently Amended) A compound represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein:

Ring **A** is substituted or unsubstituted and is optionally fused to an aryl group;

Z_1 and Z_2 are independently =O, =S, =N-OR_{12} or =NR_{12};

R_1 and R_2 are independently -H, an aliphatic group, a substituted aliphatic group, an unsubstituted non-aromatic ~~heterocylic~~ heterocyclic group, a substituted non-aromatic ~~heterocylic~~ heterocyclic group, an unsubstituted aryl group or a substituted aryl group, provided that R_1 and R_2 are not both -H; or -NR_1R_2, taken together, is a substituted or unsubstituted non-aromatic nitrogen-containing heterocyclic group or a substituted or unsubstituted nitrogen-containing heteroaryl group;

R_3 is a substituted or unsubstituted aryl group or a substituted or unsubstituted aliphatic group;

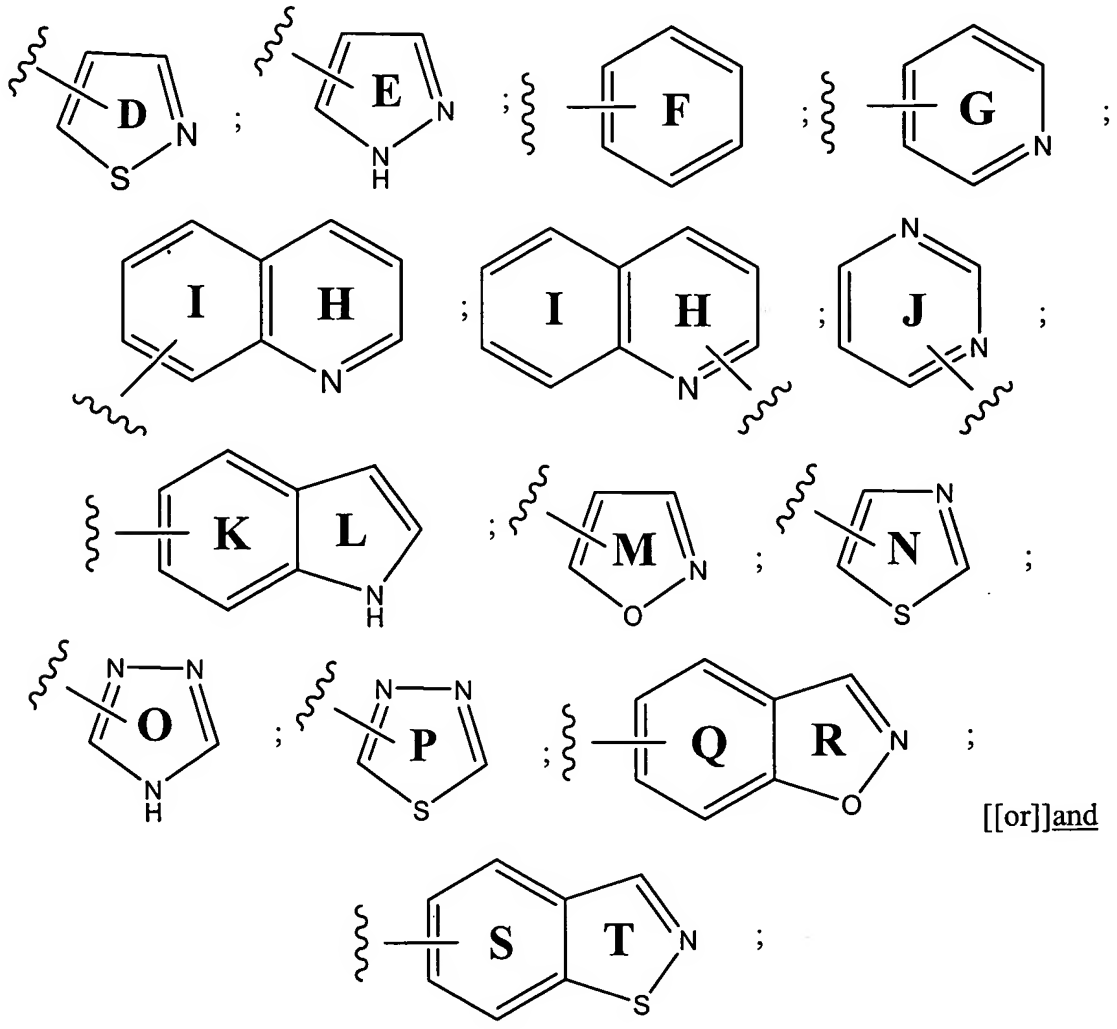
X is a covalent bond, -$C(R_4R_5)$-, -$N(R_4)$-, -O-, -S-, -S(O)-, -$S(O)_2$-, -C(=O)-, -C(=O)-$N(R_4)$-, or -$N(R_4)$-C(=O)-;

R_4 and R_5 are independently -H or a substituted or unsubstituted aliphatic group; and

R_{12} is -H or a substituted or unsubstituted alkyl group.

2. (Original) The compound of Claim 1 wherein: Ring **A** is substituted or unsubstituted; Z_1 and Z_2 are both =O; R_1 is -H; R_2 is a substituted or unsubstituted alkyl or aryl group; R_3 is a substituted or unsubstituted aryl group; and X is $-C(R_4R_5)-$, $-N(R_4)-$ or -O-.

3. (Currently Amended) The compound of Claim 2 wherein R_2 is represented by a structural formula selected from:

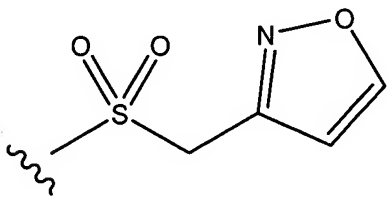


[[or]]<u>and</u>

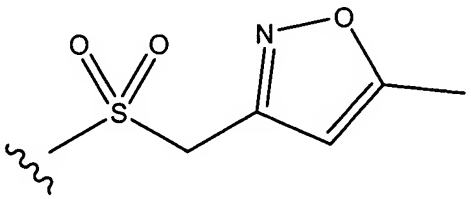
wherein Rings **D-T** are substituted or unsubstituted.

4. (Currently Amended) The compound of Claim 3 wherein zero, one or more ring carbons atoms of Rings **D-T** are substituted a group independently selected from -OH, -Br, -Cl, -I, -F, -OR^a, -O-COR^a, -COR^a, -CN, -NO_2, -COOH, -SO_3H, -NH_2, -NHR^a, -$N(R^aR^b)$, -$COOR^a$, -CHO, -$CONH_2$, -$CONHR^a$, -$CON(R^aR^b)$, -$NHCOR^a$, -$NRCOR^a$, -$NHCONH_2$, -$NHCONR^aH$, -$NHCON(R^aR^b)$, -NR^cCONH_2, -NR^cCONR^aH, -$NR^cCON(R^aR^b)$, -C(=NH)-NH_2, -C(=NH)-NHR^a, -C(=NH)-$N(R^aR^b)$, -C(=NR^c)-NH_2, -C(=NR^c)-NHR^a, -C(=NR^c)-$N(R^aR^b)$, -NH-C(=NH)-NH_2, -NH-C(=NH)-NHR^a, -NH-C(=NH)-$N(R^aR^b)$, -NH-C(=NR^c)-NH_2, -NH-C(=NR^c)-NHR^a, -NH-C(=NR^c)-$N(R^aR^b)$, -NR^dH-C(=NH)-NH_2, -NR^d-C(=NH)-NHR^a, -NR^d-C(=NH)-$N(R^aR^b)$, -NR^d-C(=NR^c)-NH_2, -NR^d-C(=NR^c)-NHR^a, -NR^d-C(=NR^c)-$N(R^aR^b)$, -$NHNH_2$, -$NHNHR^a$, ~~-NHR^aR^b~~ -$N(R^aR^b)$, -SO_2NH_2, -SO_2NHR^a, ~~-$SO_2NR^aR^b$~~ -$SO_2N(R^aR^b)$, -CH=CHR^a, -CH=CR^aR^b, -CR^c=CR^aR^b, -CR^c=CHR^a, -CR^c=CR^aR^b, -CCR^a, -SH, -SR^a, -S(O)R^a, -$S(O)_2R^a$, alkyl groups, substituted alkyl group, non-aromatic heterocyclic group, substituted non-aromatic heterocyclic group, benzyl group, substituted benzyl group, aryl group or substituted aryl group wherein R^a-R^d are each independently an alkyl group, substituted alkyl group, benzyl, substituted benzyl, aryl or substituted aryl group, or, ~~-NR^aR^b~~ -$N(R^aR^b)$, taken together, can also form a substituted or unsubstituted non-aromatic heterocyclic group.

5. (Original) The compound of Claim 3 wherein zero one or more ring carbon atoms of Rings **D-T** are independently substituted with a group selected from C1-C4 alkyl, C1-C4 hydroxyalkyl, *N*-morpholino, pyrimidyl, C1-C4 alkyl substituted pyrimidyl, -N(C1-C4 alkyl)$_2$, -$C(O)NH_2$, -C(O)NH(C1-C4 alkyl), C(O)N(C1-C4 alkyl)$_2$, -NHC(O)(C1-C4 alkyl), -NO_2, C1-C4 alkoxy, -C(O)O-CH_2CH_2-N(C1-C4 alkyl)$_2$,



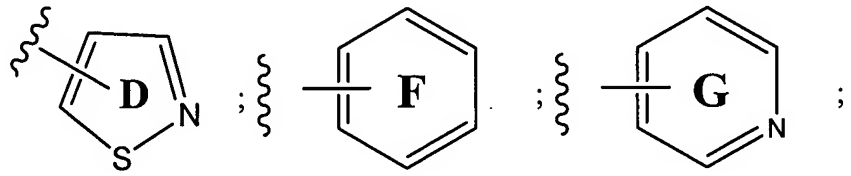
,

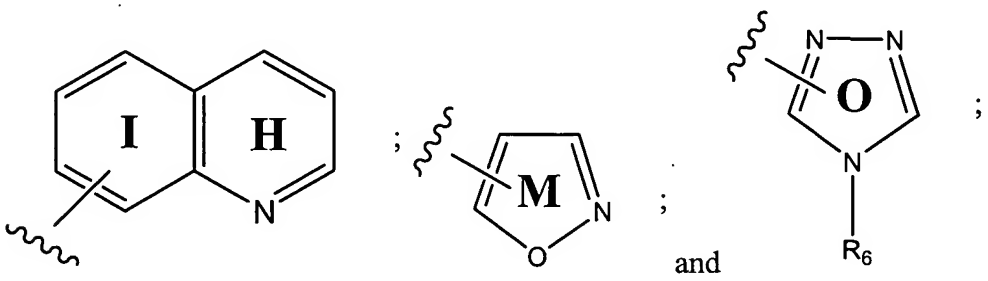


, -NH-(phenyl), -NH_2, -CH_2NH-C(O)-O-(C1-C4 alkyl), -CH_2NH_2, -Cl, -F, -C(O)-O-(C1-C4 alkyl), -C(O)-N-(C1-C4 alkyl), C3-C7 cycloalkyl, phenyl, -C(O)-*N*-morpholino, -S-(C1-C4

alkyl), -CN, furyl, $-S(O)_2-(C1-C4\ alkyl)$, $-S(O)_2-NH_2$, $-S(O)_2-NH(C1-C4\ alkyl)$ and $-S(O)_2-N(C1-C4\ alkyl)_2$.

6. (Original) The compound of Claim 5 wherein R_2 is represented by a structural formula selected from:

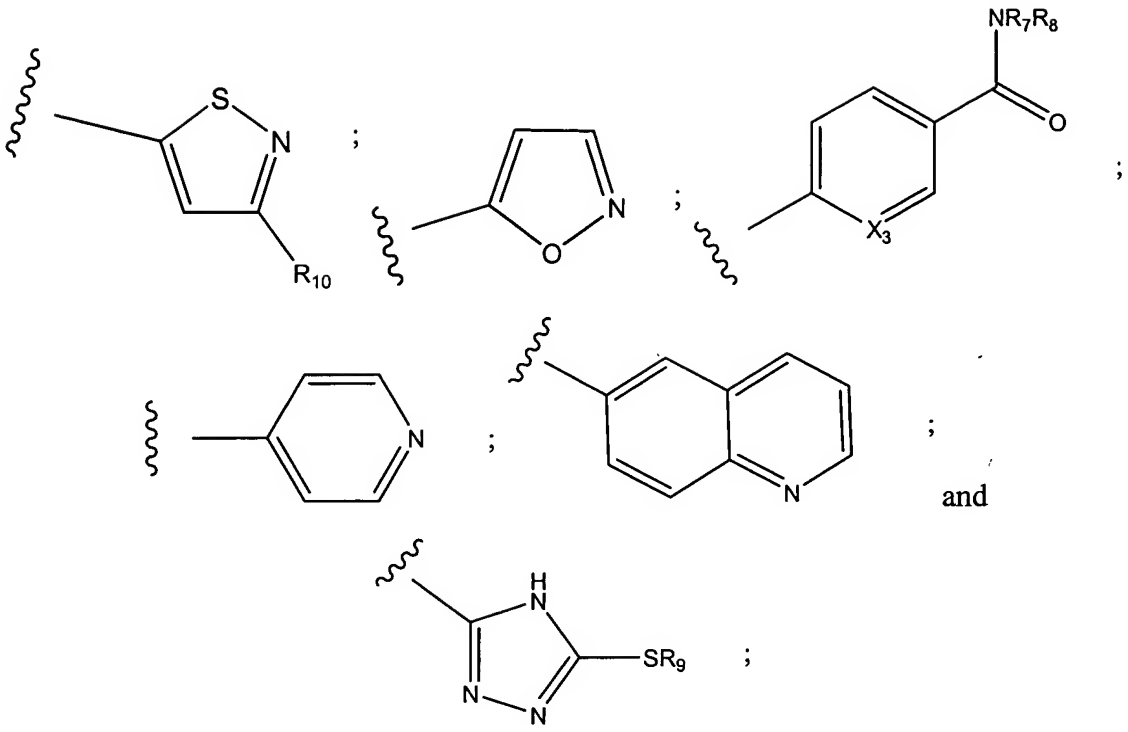




and

and R_6 is -H or a substituted or unsubstituted alkyl group.

7. (Original) The compound of Claim 5 wherein R_2 is represented by a structural formula selected from:



and

wherein:

X_3 is -CH- or -N-;

R_7 and R_8 are independently -H or an alkyl group or $-NR_7R_8$, taken together, is a nitrogen-containing non-aromatic heterocyclic group;

R_9 is an alkyl group; and

R_{10} is -H or an alkyl group.

8. (Original) The compound of Claim 7 wherein Ring **A** is optionally substituted with one or more groups selected from -F, -Cl, -Br, -C1-C4 alkyl, C1-C4 alkoxy, -C1-C4 haloalkyl, C1-C4 haloalkoxy, $-NH_2$ and -CN.

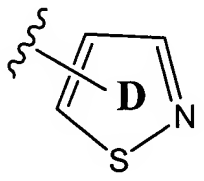
9. (Currently Amended) The compound of Claim 8 wherein Ring **A** is unsubstituted; R_3 is a phenyl group or pyridyl group substituted with zero, one or more substituents selected from -Br, -Cl, -F, $-R^e$, $-OR^e$, -CN, $-COOR^e$, $-N(R^e)_2$, $-CON(R^e)_2$, $-NR^eCOR^f$, $-NHCONH_2$ and $-SO_2\ N(R^e)_2$; R_7 and R_8 are both -H and R_9 is methyl; and each R^e and R^f [[are]]<u>is</u> independently -H, an alkyl group or a substituted alkyl group.

10. (Original) The compound of Claim 9 wherein R_3 is a phenyl ring substituted with zero one or more substituents selected from -Cl, -F, $-R^e$, $-OR^e$, -CN, $-NH_2$, $-CONH_2$ and $-NHCOR^f$.

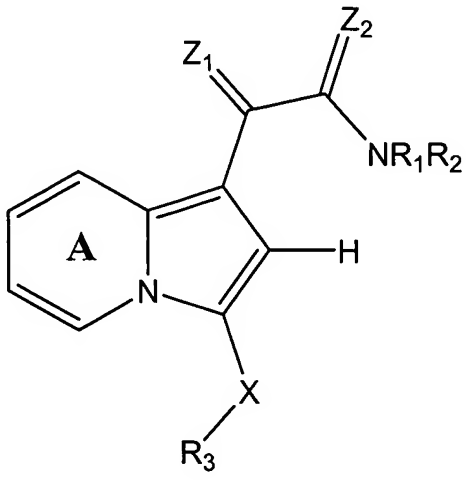
11. (Original) The compound of Claim 10 wherein R_3 is a phenyl ring substituted with zero one or more substituents selected from $-CH_3$, $-CH_2CH_3$, $-OCH_3$, -CN, -F and -Cl.

12. (Original) The compound of Claim 11 wherein R_3 is a phenyl ring that is unsubstituted or monosubstituted with $-CH_2CH_3$, $-OCH_3$, -CN, -F or -Cl and wherein the phenyl ring substituent is at the *para* position.

13. (Original) The compound of Claim 4 wherein R_2 is represented by the following structural formula:



14. (Currently Amended) A method of treating a subject with cancer comprising administering to the subject an effective amount of a compound represented by the following structural formula:



;

or a pharmaceutically acceptable salts thereof, wherein:

Ring **A** is substituted or unsubstituted and is optionally fused to an aryl group;

Z_1 and Z_2 are independently =O, =S, =N-OR_{12} or =NR_{12}.

R_1 and R_2 are independently -H, an aliphatic group, a substituted aliphatic group, an unsubstituted non-aromatic ~~heterocylic~~ heterocyclic group, a substituted non-aromatic ~~heterocylic~~ heterocyclic group, an unsubstituted aryl group or a substituted aryl group, provided that R_1 and R_2 are not both -H; or -NR_1R_2, taken together, is a substituted or unsubstituted non-aromatic nitrogen-containing heterocyclic group or a substituted or unsubstituted nitrogen-containing heteroaryl group;

R_3 is a substituted or unsubstituted aryl group or a substituted or unsubstituted aliphatic group;

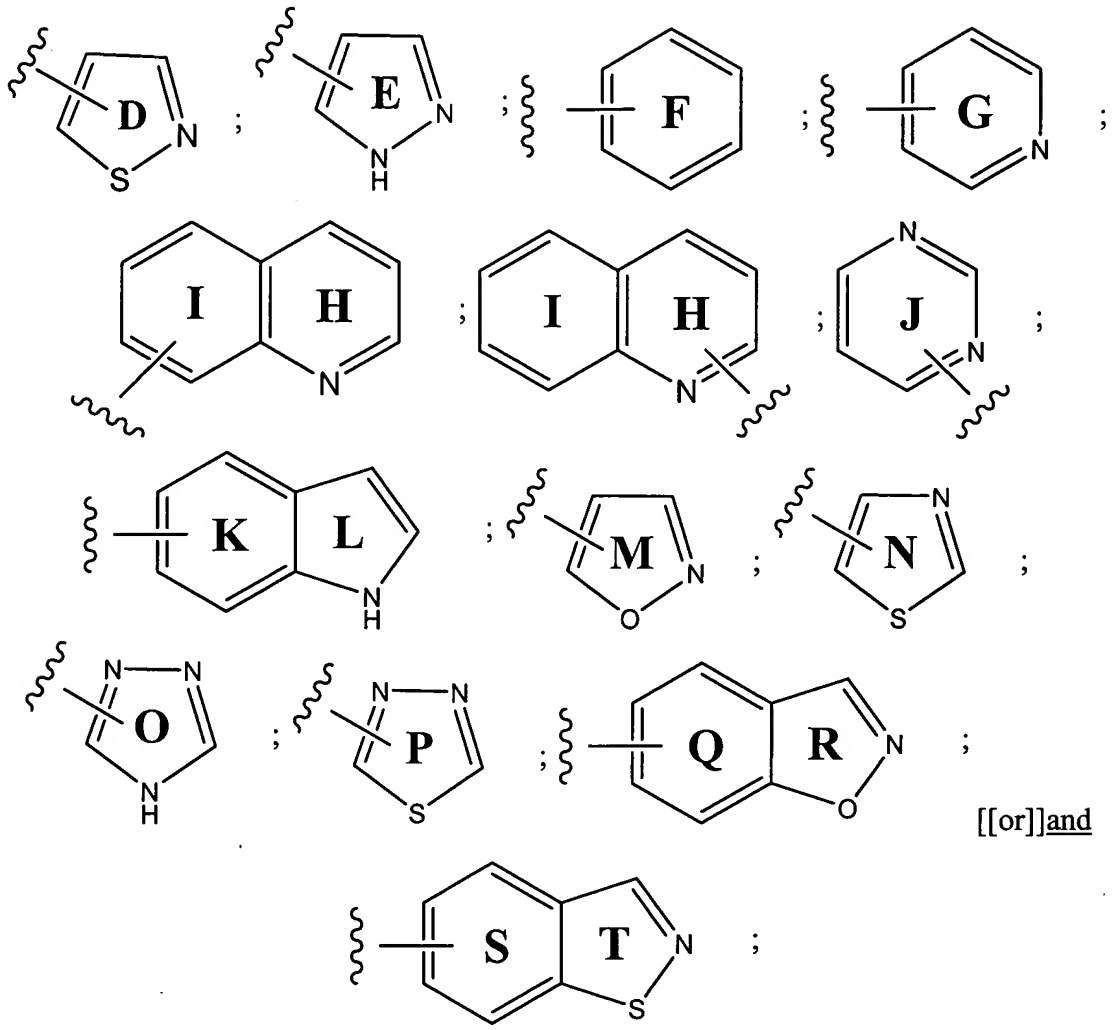
X is a covalent bond, -$C(R_4R_5)$-, -$N(R_4)$-, -O-, -S-, -S(O)-, -$S(O)_2$-, -C(=O)-, -C(=O)-$N(R_4)$-, or -$N(R_4)$-C(=O)-;

R_4 and R_5 are independently -H or a substituted or unsubstituted aliphatic group; and

R_{12} is -H or a substituted or unsubstituted alkyl group.

15. (Currently Amended) The method of Claim 14 wherein: Ring **A** substituted or unsubstituted, Z_1 and Z_2 are both =O; R_1 is -H; R_2 is a substituted or unsubstituted alkyl or aryl group; R_3 is a substituted or unsubstituted aryl group; and X is -$C(R_4R_5)$-, -$N(R_4)$- or -O-[[;]].

16. (Currently Amended) The method of Claim 15 wherein R_2 is represented by a structural formula selected from:



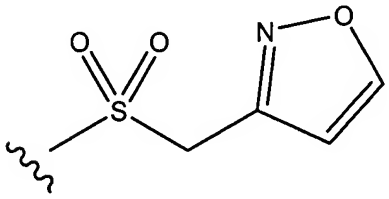
[[or]]and

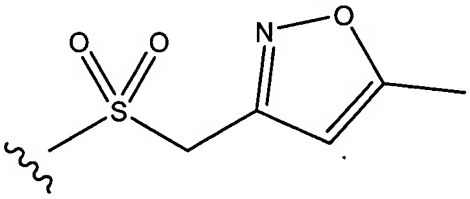
wherein Rings **D-T** are substituted or unsubstituted.

17. (Currently Amended) The method of Claim 16 wherein zero, one or more ring carbons atoms of Rings **D-T** are substituted with a group independently selected from -OH, -Br, -Cl, -I, -F, -OR^a, -O-COR^a, -COR^a, -CN, -NO_2, -COOH, -SO_3H, -NH_2, -NHR^a, -$N(R^aR^b)$, -$COOR^a$, -CHO, -$CONH_2$, -$CONHR^a$, -$CON(R^aR^b)$, -$NHCOR^a$, -$NRCOR^a$, -$NHCONH_2$, -$NHCONR^aH$, -$NHCON(R^aR^b)$, -NR^cCONH_2, -NR^cCONR^aH, -$NR^cCON(R^aR^b)$, -C(=NH)-NH_2, -C(=NH)-NHR^a, -C(=NH)-$N(R^aR^b)$, -$C(=NR^c)$-NH_2, -$C(=NR^c)$-NHR^a, -$C(=NR^c)$-$N(R^aR^b)$, -NH-C(=NH)-NH_2, -NH-C(=NH)-NHR^a, -NH-C(=NH)-$N(R^aR^b)$, -NH-$C(=NR^c)$-NH_2, -NH-$C(=NR^c)$-NHR^a, -NH-$C(=NR^c)$-$N(R^aR^b)$, -NR^dH-C(=NH)-NH_2, -NR^d-C(=NH)-NHR^a, -NR^d-C(=NH)-$N(R^aR^b)$, -NR^d-$C(=NR^c)$-NH_2,

$-NR^d-C(=NR^c)-NHR^a$, $-NR^d-C(=NR^c)-N(R^aR^b)$, $-NHNH_2$, $-NHNHR^a$, ~~$-NHR^aR^b$~~ $-N(R^aR^b)$, $-SO_2NH_2$, $-SO_2NHR^a$, ~~$-SO_2NR^aR^b$~~ $-SO_2N(R^aR^b)$, $-CH=CHR^a$, $-CH=CR^aR^b$, $-CR^c=CR^aR^b$, $-CR^c=CHR^a$, $-CR^c=CR^aR^b$, $-CCR^a$, -SH, $-SR^a$, $-S(O)R^a$, $-S(O)_2R^a$, alkyl groups, substituted alkyl group, non-aromatic heterocyclic group, substituted non-aromatic heterocyclic group, benzyl group, substituted benzyl group, aryl group or substituted aryl group wherein R^a-R^d are each independently an alkyl group, substituted alkyl group, benzyl, substituted benzyl, aryl or substituted aryl group, or, ~~$-NR^aR^b$~~ $-N(R^aR^b)$, taken together, can also form a substituted or unsubstituted non-aromatic heterocyclic group.

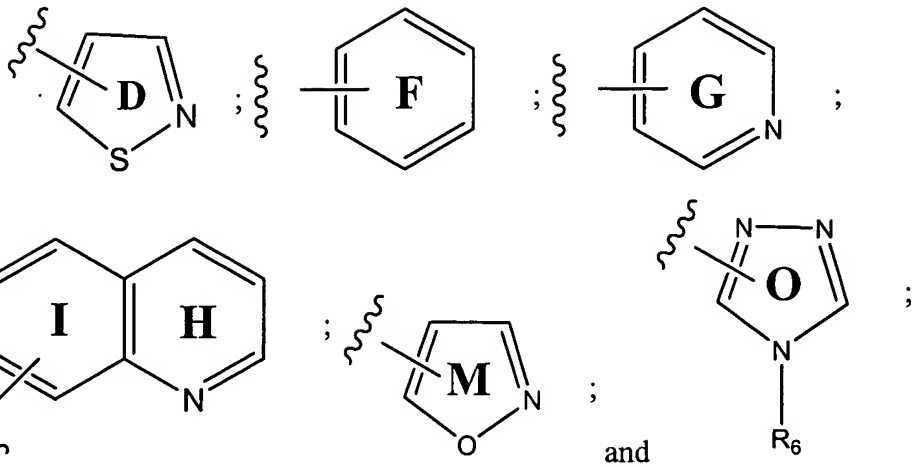
18. (Original) The method of Claim 16 wherein zero one or more ring carbon atoms of Rings **D-T** are independently substituted with a group selected from C1-C4 alkyl, C1-C4 hydroxyalkyl, *N*-morpholino, pyrimidyl, C1-C4 alkyl substituted pyrimidyl, -NH(C1-C4 alkyl), $-N(C1\text{-}C4\ alkyl)_2$, $-C(O)NH_2$, -C(O)NH(C1-C4 alkyl), $C(O)N(C1\text{-}C4\ alkyl)_2$, -NHC(O)(C1-C4 alkyl), $-NO_2$, C1-C4 alkoxy, $-C(O)O-CH_2CH_2-NH(C1\text{-}C4\ alkyl)$, $-C(O)O-CH_2CH_2-N(C1\text{-}C4\ alkyl)_2$,



,


, -NH-(phenyl), $-NH_2$, $-CH_2NH-C(O)-O-(C1\text{-}C4\ alkyl)$, $-CH_2NH_2$, -Cl, -F, $-C(O)-O-(C1\text{-}C4\ alkyl)$, $-C(O)-NH-(C1\text{-}C4\ alkyl)$, C3-C7 cycloalkyl, phenyl, -C(O)-*N*-morpholino, $-S-(C1\text{-}C4\ alkyl)$, -CN, furyl, $-S(O)_2-(C1\text{-}C4\ alkyl)$, $-S(O)_2-NH_2$, $-S(O)_2-NH(C1\text{-}C4\ alkyl)$ and $-S(O)_2-N(C1\text{-}C4\ alkyl)_2$.

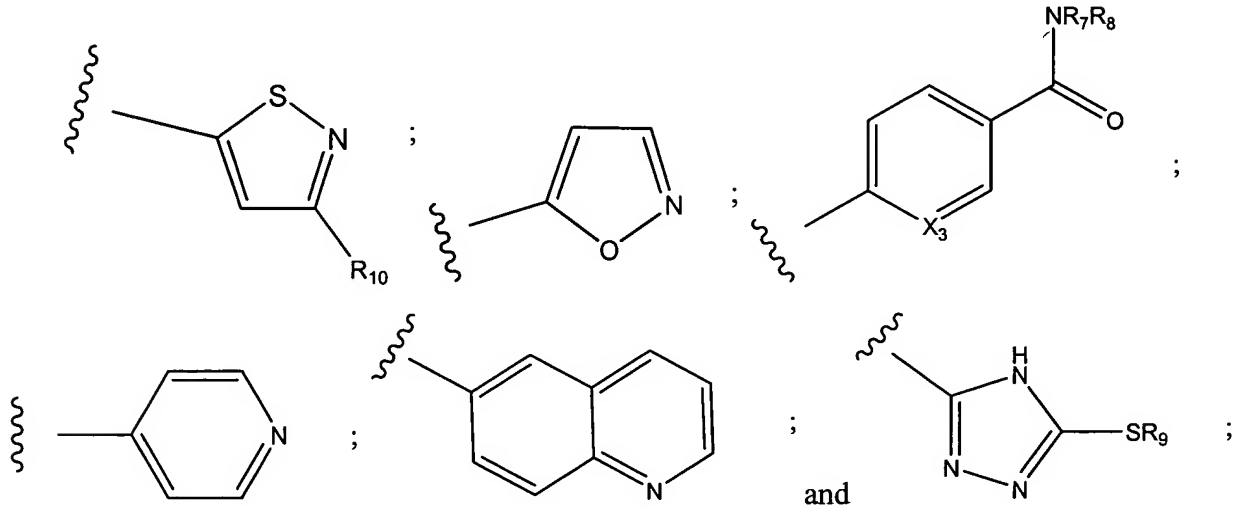
19. (Original) The method of Claim 18 wherein R_2 is represented by a structural formula selected from:



and

and R_6 is -H or a substituted or unsubstituted alkyl group

20. (Original) The method of Claim 19 wherein R_2 is represented by a structural formula selected from:



and

wherein:

X_3 is -CH- or -N-;

R_7 and R_8 are independently -H or an alkyl group or $-NR_7R_8$, taken together, is a nitrogen-containing non-aromatic heterocyclic group;

R_9 is an alkyl group; and

R_{10} is -H or an alkyl group.

21. (Original) The method of Claim 20 wherein Ring **A** is optionally substituted with one or more groups selected from -F, -Cl, -Br, -C1-C4 alkyl, C1-C4 alkoxy, -C1-C4 haloalkyl, C1-C4 haloalkoxy, $-NH_2$ and -CN.

22. (Currently Amended) The method of Claim 21 wherein Ring **A** is unsubstituted; R_3 is a phenyl group or pyridyl group substituted with one or more substituents selected from -Br, -Cl, -F, $-R^e$, $-OR^e$, -CN, $-COOR^e$, $-N(R^e)_2$, $-CON(R^e)_2$, $-NR^eCOR^f$, $-NHCONH_2$ or $-SO_2N(R^e)_2$; R_7 and R_8 are both -H and R_9 is methyl; and each R^e and R^f [[are]]<u>is</u> independently -H, an alkyl group or a substituted alkyl group.

23. (Original) The method of Claim 22 wherein R_3 is a phenyl ring substituted with one or more substituents selected from -Cl, -F, $-R^e$, $-OR^e$, -CN, $-NH_2$, $-CONH_2$ and $-NHCOR^f$.

24. (Original) The method of Claim 23 wherein R_3 is a phenyl ring substituted with one or more substituents selected from $-CH_3$, $-CH_2CH_3$, $-OCH_3$, -CN, -F and -Cl.

25. (Original) The method of Claim 23 wherein R_3 is a phenyl ring monosubstituted with $-CH_3$, $-CH_2CH_3$, $-OCH_3$, -CN, -F and-Cl and wherein the phenyl ring substituent is at the *para* position.

26. (Original) The method of Claim 16 wherein R_2 is represented by the following structural formula: